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CIA HISTORICAL STAFF

The Directorate of Intelligence Historical Series

GEOGRAPHIC RESEARCH SUPPORT TO SCIENTIFIC,
MILITARY, AND ECONOMIC INTELLIGENCE

1947-70

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OBGI-14

February 1973

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THE DDI HISTORICAL SERIES**OBI-14****GEOGRAPHIC RESEARCH SUPPORT TO SCIENTIFIC,
MILITARY, AND ECONOMIC INTELLIGENCE
1947-70***by*(b)(3) CIAAct
(b)(6)**February 1973**(b)(3) CIAAct
(b)(6)**John Kerry King
Director****Basic and Geographic Intelligence****HISTORICAL STAFF
CENTRAL INTELLIGENCE AGENCY
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GEOGRAPHIC RESEARCH SUPPORT TO SCIENTIFIC
MILITARY, AND ECONOMIC INTELLIGENCE
1947-70

I. Introduction

The Geography Division has throughout its history as a component of CIA been a major producer of geographic intelligence relating to scientific, military, and economic topics, from 1947 to 1970 publishing or contributing to more than 700 reports and articles in these fields. This considerable effort has for the most part involved responding to the requirements of other intelligence components. More than two-thirds of Division production on these subjects has been in answer to specific requests; about half of the total has been for three customers -- the Offices of Scientific Intelligence (OSI), Economic Research (OER), and Strategic Research (OSR) and their predecessor organizations. The specialized knowledge of most economic, military, and scientific analysts is insufficient to cope with many intelligence problems without the concomitant knowledge of the earth and

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its occupancy by man which the geographer is particularly well equipped to provide.

Since the purview of the Geography Division is the entire world, it was from the beginning organized into regional branches -- Far East, Western Hemisphere, and others. Each analyst was then assigned a subregion on which to concentrate his efforts. In most parts of the world these subregions comprised a bloc of countries, but large high-priority countries such as the USSR and China required the attention of several analysts, each responsible for a section of the country. For effective coverage of these same countries it was also necessary that country-wide topical responsibilities -- transportation, population, and climate, for example -- be assigned. Over several years of this kind of organization Geography Division analysts developed a geographical expertise which could be effectively applied to the more narrowly specialized expertise of other intelligence components. It was, of course, a simple matter to assign projects, whether self-initiated or requested,

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to the analyst responsible for the specific subregion or topic involved.

A. Problems of Definition

Much of the work categorized in this history as economic, scientific, and military intelligence support is derived from the analysis of all aspects of physical and cultural geography in the context of a specific setting. This is particularly true of most of the "economic" work discussed below, which was heavily regional in scope with considerable attention given to the economic as well as other aspects of cultural geography.

The long experience of the Geography Division and its predecessors in the map intelligence field led to a thorough knowledge of topical maps and thence to an expertise in regional geography unmatched in the intelligence community. Much of the Division's strength lay in its ability to produce well balanced regional studies in answer to a great variety of problems.

As a matter of administrative convenience, however, most Division work has for many years

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been categorized on the basis of the use to which it was to be put. This usually amounted to a categorization by requester or principal user. In this history the same pattern has been followed: studies for OER are economic, those for OSI are scientific, and those for OSR are military.* It should be noted that the category of scientific support includes not only support to producers of scientific intelligence but also to those collectors who use scientific means.

The definition of geographic research in support of economic intelligence presents some special problems in ensuring complete historical coverage. Those studies produced at the request of OER and its predecessor, the Economic Research Area (ERA) of the Office of Research and Reports (ORR), clearly fall within this category. Many other studies, however -- primarily those that

*The term military-economic support, originally used by the Geography Division to refer to support to the producers of military intelligence in the Economic Research Area (ERA) of the Office of Research and Reports (ORR), has largely lost its relevance with the establishment of OSR.

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are self-initiated but also some requested by non-economic organizations -- have a significant economic-geography content and are therefore also included.

Much geographic research also has been done in the Division on Soviet activities in geodesy and gravimetry and on scientific and military topics concerning the polar regions. These topics are covered in other segments of the Geography Division history program.

B. Economic Intelligence Support

Economic intelligence support work by the Division evolved from its roots in map intelligence, and it grew along with the growth of economic intelligence research itself. At the time of its transfer from the Department of State to the Central Intelligence Agency (CIA) in December 1947, the predecessor of the Geography Division was known as the Map Intelligence Division, a name which accurately described its major function for several more years. Even after it became the Analysis Branch of the Geographic Division in the

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spring of 1951, its principal task continued to be confined largely to the selection and evaluation of existing maps and research for the preparation of new maps in support of CIA's Office of Research and Reports,* the Department of State, and Department of Defense components. Self-initiated work reflected the same emphasis: 18 of 23 "economic" articles in early issues of the Division periodical, the Map Research Bulletin, were reviews of newly published maps and atlases. Gradually, however, the writing of economic geography came to be recognized as a legitimate function of Division geographers. The number of these studies, both self-initiated and in direct support of economic researchers, reached high points in the last half of the 1950's and again in the middle and late 1960's.

*The Office of Reports and Estimates (ORE), the Division's original parent organization, was split in November 1950 into the Office of National Estimates (ONE) and the Office of Research and Reports (ORR); the Division remained a part of the latter organization until 1965.

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C. Scientific and Military Intelligence Support

Geographic research in support of OSI first appeared in the latter part of 1951. Scientific and military intelligence support work by the Division then expanded considerably with the birth and growth of guided missile research in ORR during the last half of the 1950's and has been further augmented in more recent years by work done for several of the offices within the Directorate of Science and Technology.

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II. The First Decade (1948-1957)

Geography Division output during CIA's first decade included some 230 reports and contributions to reports with significant economic-geography content. In contrast, support to scientific and military intelligence was then in its infancy, and reports in this category through FY 1957 numbered only 10 or 12.

A. Economic Intelligence Support

Two important series of reports accounted for much of the Division's production in support of economic intelligence in the late 1940's and early 1950's. These series were known as SR's, Situation Reports, and MR's -- originally called Map Research Bulletins, then Map Intelligence Reviews, and finally Geographic Intelligence Reviews.

1. The SR Series

The Situation Reports included separate studies on some 38 countries or regional groups. Published by ORE from early 1948 through 1950,

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these factbook-type studies included a geographic contribution in the form of evaluation of existing maps and research for new maps prepared by the Cartography Division. Each study included a set of maps on economic subjects, with transportation, industry, mining and minerals, and agriculture being widely represented. Other subjects found in one or more studies were water power, land use, and forestry.

2. The MR Series

The second report series which began during this period proved to be of considerable importance in furthering the role of the Division in supporting economic intelligence. First published in September 1948, the MR series survived through 68 issues until May 1960, when it was discontinued as part of a general cutback in Intelligence Community reports. In its peak year, 1951, 11 issues were published, but this number dwindled to two to four per year by the late 1950's.

As indicated by its original title, Map Research Bulletin, the MR series was to have the limited function of

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giving recent developments in boundary, territorial and administrative changes Will keep government cartographic agencies posted on recent political developments which affect map making and answer questions which we otherwise would get separately. 1/

For the first year the new publication followed these guidelines rigorously, with only one article -- a review in the sixth issue of a German bioclimatic atlas 2/ -- which, because of its intended use in post-war agricultural planning, could be construed as having economic implications.

By the second year of publication, the rigid guidelines had been loosened, and several more reviews of economic maps and map-related books appeared along with an article on Mexican mapping (including economic mapping) 3/ and another on "The Projected Danube-Tisa-Danube Canal." 4/ This latter was the first of 58 articles to appear in the MR series dealing with some phase of economic geography.

More than half of the articles on economic geography concerned transportation, primarily answering the questions "where," "why," and "when"

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about newly built, reconstructed, or abandoned transportation routes. They ranged from brief notices of new routes (e.g., "A Motor Road in Soviet Central Asia") 5/ through more detailed summaries of recent developments (e.g., "Railroad Changes in Israel" 6/ and "The Status of Belgian Roads in 1952" 7/) to fairly lengthy analyses of transportation developments.

Typical of the longer articles was one which appeared in September 1953 analyzing available information on a reported alternate route to the Trans-Siberian Railroad in the Soviet Far East. 8/ Comprising 18 pages of text, a six-page Gazetteer of Settlements, and a map, this study represented a review of [REDACTED] (b)(1)
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A more comprehensive article the following year discussed transportation improvements and their effect on the economic development of four provinces of western China. 9/ It not only reviewed the progress and problems of current rail and road construction but also estimated the rate of future construction and

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assessed the expected realignment of regional trade patterns.

As a reflection of the broadened scope of its articles the Map Research Bulletin in June 1952 had become the Map Intelligence Review. A 1953 planning paper predicted:

During FY 1954 and 1955 the currently produced Map Intelligence Review will be changed in character and content to include items of both map intelligence and geographic intelligence. A recent change in Division policy has put this publication on a formal-project basis, rather than voluntary, to provide a higher quality product at more regular intervals with the expenditure of a slight additional effort. 10/

In 1954 and 1955 the MR series, by then called the Geographic Intelligence Review, came to be used as a vehicle to introduce the more significant CIA maps to the Intelligence Community by including a copy of the map together with a lengthy explanation of the research findings that were incorporated into it.* The first example of this approach was an article concerning the

*As early as 1951 CIA maps had been introduced through publication in the MR, but they were accompanied by only a brief notice.

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extensive 1954 revision of the 1951 map on railroads of tropical Africa, with changes described in detail in a 16-page text. 11/ Similar articles covered maps of the railroads of Sakhalin Island 12/ and of the railroad systems of the Soviet Union -- the first of several editions of the map "USSR: Railroad Systems.." 13/

In contrast to articles on transportation developments, which reached their peak numbers in the years 1951 through 1955, economic studies on non-transportation subjects did not begin to appear in the MR with any regularity until 1955. The only earlier articles of this type appeared in 1953, one on the Tsimlyansk Reservoir (including the first MR use of photographs) 14/ and the other a discussion of postwar changes in the French petroleum industry. 15/ After 1955 such articles were published every year until the demise of the MR in 1960.

Among the 1955 articles, the one published in February on the Chinese floods of the preceding August best illustrated the Division's growing

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ability to collate information on an event which the Chinese regime was understandably reluctant to publicize, to relate it to facts already known about Chinese industry, transportation, and agriculture, and to evaluate the damage to the Chinese economy. 16/ A study later in the year discussed the radical changes in the French petroleum industry caused by a major 1954 oilfield discovery. 17/ Three 1955 articles -- on Netherlands New Guinea, 18/ on the Pathet Lao area of Laos, 19/ and on the Gulf of Aqaba 20/ -- were general geographic studies which covered economic geography as well as the physical environment, population, and strategic factors.

3. Direct Support to Requesters

Outside of the SR and MR series, geographic support to economic intelligence was provided by the Division both on specific request and also in the form of self-initiated reports. In the period through FY 1956 the economic units within ORE and ORR accounted for almost half of the requests for economic intelligence support. Other major

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requesters were the Department of State and Department of Defense components.

One of the Division's earliest and most ambitious efforts in the field of economic geography was a study of Tannu Tuva* begun, probably in 1947, at the request of a Congressional Committee and published in September 1950. 21/

After reviewing a preliminary draft, Dr. []

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[] head of the Map Division, suggested that the manuscript be reorganized, with emphasis on Tannu Tuva's "potentialities for economic development, and as a present or future site for military plants." 22/ As a result of this suggestion almost half of the published text was devoted to economic geography -- mineral resources, transportation, land utilization and economy, and electric power resources and development.

As was the case with MR articles in the same period, Division support to CIA economists was heavily weighted toward transportation, much of it in the form of research for maps to be included

*Now the Tuvinskaya ASSR of the USSR.

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in ORE and ORR studies. Typical requests were for research for air route maps of Latin America 23/ and for a study of the sources of strategic minerals in Africa and the routes used in transporting them to ports of export. 24/ In addition to transportation, the Division supported the economic intelligence components with research in a wide variety of fields including construction, industry, agriculture, economic regionalization and economic planning, land use, mining, and electric power.

During the early 1950's economic support projects increased in length and complexity. In early 1951 the Division was charged with supporting

other components of CIA by . . . contributing analyses of detailed locational factors of significance to a variety of investigations of economic and military capabilities undertaken within CIA. 25/

By 1953 the Division's role in economic support was spelled out with greater clarity:

All branches of the Division will continue to support the Economic Research program of ORR by providing detailed geographic locational data covering the fields of transportation, agriculture, industry, telecommunications,

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electric power, and minerals. In the event that a regional study approach is undertaken by the Economic Research Area as a means of considering economic factors in their regional context, the Geography Division will undoubtedly be expected to support such an approach. 26/

Within the next two years there was a marked trend away from research for map compilation and toward greater analytical sophistication, as reflected in an official summary of FY 1955 work which reported

the increasing participation of the Division in large scale intelligence projects either in collaboration or cooperation with components of the Economic Area of ORR. Five branches are at present participating in seven such projects. 27/

An outstanding example of this increasing participation was a 1955 study of the economic regions of the USSR, comprising an introduction on the background of economic regionalization and a geographic "brief" of each of the 15 economic regions. 28/ The emphasis within each brief was on the natural resources, industry, agriculture, and transportation of the region, with somewhat less stress on population and physical geography. These regional briefs were later published as a

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lengthy appendix to the ERA report, Regional Product in the USSR. 29/

An even more ambitious study, written by [redacted] of the USSR Branch at the request (b)(3) CIAAct (b)(6) of the Petroleum Branch of the ERA, provided a comprehensive geographic description and analysis of the Volga-Ural Region, at that time (1955-56) the major petroleum producing region in the USSR. 30/ This report, the Division's first attempt at producing a long regional study with an economic orientation, covered in considerable detail -- in some hundred pages of text, photographs, and maps -- all aspects of the cultural and physical geography of the region, emphasizing transportation, industry, and mineral resources.

Economic geographic support to the Department of State was highlighted in the early 1950's by a group of reports which covered the occurrence and exploitation of at least 11 different minerals in nine countries. These reports evolved from a National Security Council requirement to determine the vulnerability to sabotage of various mineral industries throughout the world. Most of this

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mineral research was integrated with the contributions of other offices and was subsequently published in State and ERA publications, but two reports were issued directly by the Division. 31/ Described in considerable detail were the mineral deposits, their surrounding regions, and the transport and shipping facilities for the ore. Other Division work for the Department of State consisted of routine map selection, evaluation, and research, some of it a holdover from the period when the Geography Division was in the Department. After 1951 support work in economic geography for State virtually disappeared.

Support work of an economic-geographic nature for the Department of Defense was confined to a few routine map selection, evaluation, and research projects in 1948 and 1949 until the publication of two major studies in the mid-1950's. One of these, done at the request of the Office of Naval Intelligence (ONI), resulted in a series of

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[redacted] The second study for DoD, prepared in 1956 for the Assistant Secretary for Supply and Logistics, investigated trends in the petroleum refining industry of the non-Communist world. 34/ A version of this report was later published as an article in the Geographic Intelligence Review. 35/

During its first decade (1947-1957) the Division also completed a few other "economic" studies for a variety of requesters. All were relatively short; most of them dealt with some aspect of transportation.

4. Self-initiated Studies

Most attempts by the Division to produce self-initiated economic support studies in the years 1948 through 1951 were abandoned before completion. These included proposals for a 16-map atlas of Greece, agricultural maps of Yugoslavia, a road map of Bulgaria, a railroad map of Italy, and studies of electric power installations in the Middle East and in Africa. The only economic

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support project of note to be completed in these early years was a lengthy evaluation of transportation maps of Indo-China. It consisted of "a series of large tables . . . designed to enable easy comparison of the advantages and disadvantages of each of the maps" 36/ This "attempt at a new format for map evaluation studies" 37/ was apparently not considered worth the large amount of time expended on it and was never repeated.

It was not until 1952 that the next self-initiated Division economic-support study was published -- a detailed examination of the Anglo-Norwegian Fisheries Case, which had been decided the preceding year by the International Court of Justice. 38/ In this report of the Territorial Studies Branch not only reviewed the history and technical aspects (establishment of base lines for the delimitation of Norway's exclusive fishing zone) of the case but also discussed relevant Norwegian and British economic interests and the implications of the decision for other nations. Work of this type in the Division was dormant for many years and became important.

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again only in the late 1960's with the increasing prominence of issues relating to law of the sea and seabeds exploitation.

A second significant report under research at the same time and published in July 1953 was the Annotated Gazetteer of the Middle East Petroleum Industry. 39/ Each of several hundred places associated with the oil industry was listed with its geographic coordinates and, as appropriate, its processing, pipeline and other facilities, a laboratory analysis of its oil, its history, and other pertinent facts.

Following the Soviet announcement of a grandiose program to develop the New Lands of West Siberia and northern Kazakhstan, the USSR Branch initiated in 1955 (partly in support of an ERA project) a study to appraise the geographic aspects of this program. 40/ The intelligence problem was described as one of analyzing

the resources of the virgin and idle lands referred to in the Soviet New Lands Program to determine their suitability to support gainful agriculture and probable degree of success 41/

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The study itself -- prepared by [redacted]

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[redacted] -- included detailed discussions of relief, soils, and climate, as well as comparisons with analagous regions in Canada, settlement pattern, and transportation. In a memorandum following publication [redacted] Chief of the Geographic Research Area, commented on the success of the study in resolving the problem:

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It is indeed gratifying to see a report organized for answering an intelligence problem rather than adhering to the old academic type of approach and organization to which we have been accustomed for too long a time. Geographic factors do have a place in intelligence problem questions and their further use and applicability can only be restricted by our lack of initiative. 42/

Another large self-initiated study during the same period became a major contribution to an ERA project. In this report [redacted] and [redacted] of the Far East/Pacific Branch analysed the distribution of industry in China as affected by raw materials, transportation, electric power, and communications. 43/ Here again the Division moved to answer a question important

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in the intelligence community: what are the status of and prospects for development of Chinese industry under the new Communist regime?

B. Scientific and Military Intelligence Support

Scientific and military support projects by the Division were relatively few and far between before 1957. This reflected the near absence in CIA of a technical intelligence collection capability, and the lingering emphasis in the Division itself on map intelligence. Nevertheless, a number of studies were produced for OSI during this period, several of them important not only in themselves but also in laying the foundations for much more extensive scientific and military support work to be done in the late 1950's and the 1960's.

OSI analysts had become familiar with Division capabilities in the late 1940's through informal contacts and the answering of spot requests by the Division, but not until April 1950 did they turn to the Division for formal geographic support. The Nuclear Energy Division (NED) of OSI had

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become aware, [REDACTED] (b)(1).
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nuclear energy research and development in certain
Soviet cities. NED analysts also discovered,
however, an almost complete dearth of information
from other sources about these cities. At this
point OSI called upon the geographers to supply
detailed information in the form of maps to be
compiled on the basis of research on a wide variety
of sources. 44/ The Division's project proposal
in response to this request expanded on the need:

Information is required on the basic
geography of two urban regions as part
of a broad effort to obtain intelligence
on Soviet atomic energy activities . . .
The Air Force has been working on this
for some time and has found very little. 45/

The resultant three* urban area maps proved
to be a vital tool in OSI's search for information. 46/
Even before they were completed, OSI submitted a
second request, which resulted in an ambitious
regional study, the model for several others in
later years. 47/ The guidelines were broad:

Detailed information on physical
and cultural features will be synthesized

*A third urban area was added after the project
was initiated.

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into a regional study that will make possible a more comprehensive evaluation of scientific intelligence by OSI. 48/

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The final product had not only 144 pages of text but also two map sheets, 30 photographs (including air photos), and a lengthy series of appendices, among which were a 57-page gazetteer and 15 pages of source citations and evaluation.

While research for the above study was only getting under way, OSI, [REDACTED]

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[REDACTED] submitted a request for a study of the area in [REDACTED]

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[REDACTED] Physical features, with emphasis on petrography, soils, flora, and lakes, were covered in this report, 49/ and despite the considerable detail included, it

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was delivered to OSI in December 1951, within two months of the original request. This relatively short period reflected the increasing ability of the Division to respond quickly in urgent situations.

With the publication in 1953 of [REDACTED]

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[REDACTED], the Division began a long history of support to the collection of scientific and military information. Previous reports for OSI had the purpose of aiding the analysis of an intelligence problem; here for the first time the Division was asked "to supply basic information in support of possible covert collection efforts," 51/ in this instance to be directed against [REDACTED] (b)(1) (b)(3) NatSecAct

Although originally published in a limited number of copies for OSI, the report, written by [REDACTED] (b)(3) CIAAct (b)(6)

[REDACTED] proved to be such an important contribution to research on this little known area that it was republished in another series for wider distribution. It contained a detailed description of the physical (b)(1) and cultural features not only of [REDACTED] (b)(3) NatSecAct but also of the entire surrounding region.

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In the spring of 1953, OSI requested Division support in its investigation of Soviet activities

on [REDACTED]

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The resulting study 52/ provided OSI analysts with a synthesis of the available background information, against which they could evaluate current reporting.

A Division paper in June 1953 forecast that

Based on work done for OSI during FY 1952 and 1953, it is expected that the Division will be requested to provide basic geographic analyses supporting OSI's nuclear energy work, weapons capabilities research, and biological and bacteriological research. 53/

However, it was not until August 1954 that the next important formal request was received, a request which was to begin a history of support to OSI and other scientific/military intelligence components in the field of [REDACTED]

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Referring to the [REDACTED] study published in late 1952, [REDACTED] AD/SI, proposed in a memorandum to the AD/RR that

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an additional study of this area devoted to the survey of all available material which would reflect administrative and

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political changes could reveal the extent and direction of this range. In addition, such a study could reveal extensive changes in range length, which would indicate the progress of the Soviet guided missile program. 54/

Although the resulting report 55/ was not particularly conclusive, it was favorably received in OSI:

Your report . . . has been a valuable aid in furthering the intelligence research and analysis on the Soviet guided missile test range in the North Caspian Sea area . . .

Guided missile test ranges or areas offer the greatest intelligence potential It is possible that the intelligence community may be unaware of the existence of other guided missile testing areas. Consequently, it is requested that your office undertake a study of the USSR to determine those areas which might be suitable for surface-to-surface guided missile test ranges

It is my hope that the continued close cooperation between our two offices will improve the quantity and quality of intelligence available in this highly important field. 56/

In response to the above request the Division produced Potential Guided Missile Ranges in the USSR. 57/ In preparing this paper and accompanying map of the USSR Branch examined the criteria for a missile test range, applied them

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to the Soviet Union, and narrowed the choice to three areas. She also evaluated the already known Kapustin Yar range as being better suited for its purpose than any of the others. OSI found this study much to its liking:

Subject report is of considerable value in delimiting those areas of the Soviet Union which are suitable for testing long range guided missiles. This study and the excellent map attached thereto provide valuable assets in planning and preparing future guidance for the collectors.

The conclusion that the Soviets chose the best possible guided missile test range for intermediate and long range guided missiles . . . strengthens existing beliefs of this Office and provides added assurance that we are correct in emphasizing the collection activities against the Kapustin Yar guided missile test range. 58/

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III. First Surge of Scientific and Military Support Activity (1958-1960)

The launching of Sputnik I by the USSR in October 1957 and the consequent American reaction -- a sudden emphasis on all things scientific -- was reflected dramatically in the Division records for the period FY 1958-1960. During these three years the Division produced about 70 studies in support of scientific and military intelligence, four times the number published in the Division's entire previous history. More than half of these were at the request of the Guided Missiles Branch of the Economic Research Area of ORR (later to evolve into OSR). The remainder were divided almost equally between OSI and several other scientific intelligence components of CIA.

A. Military Intelligence Support

One of the early significant studies prepared by the Division for the GM Branch (with OSI's GM Division as co-requester) was an attempt by (b)(1) to determine (b)(3) NatSecAct

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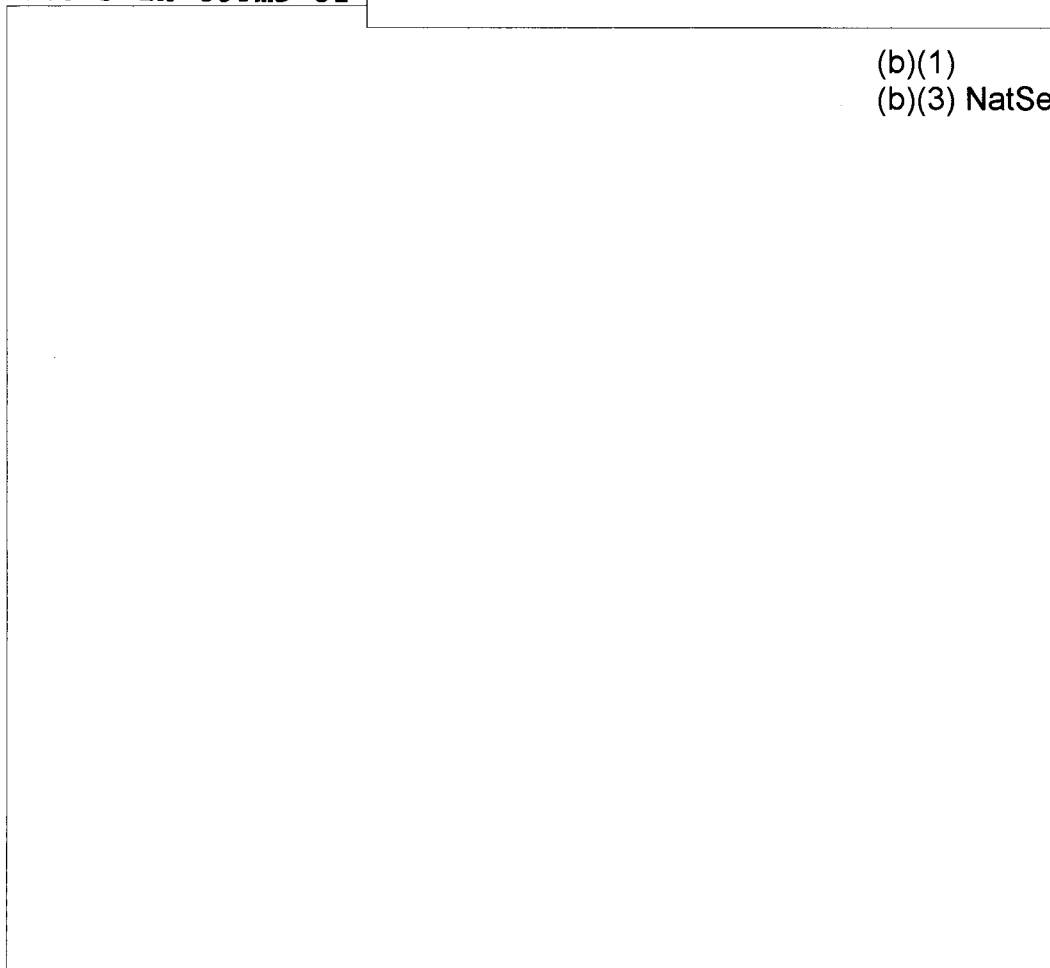

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optimum locations for Soviet ICBM launch sites (b)(1)
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A similar and related project by (b)(3) CIAAct
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under way at the same time divided the USSR into
areas in terms of



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The greatest amount of Division effort, however, was expended on several studies which provided guidance to intelligence collectors

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A summary of Division accomplishments published the following year reported that "several of the operational suggestions in these . . . studies have already been employed and have proved successful." 64/

A second series, initiated in May 1959, consisted of compilations of

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points of scientific, cultural,
historical, economic, and educational
interest. [REDACTED]

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The original report in this series, providing
generalized coverage for 15 cities, 66/ was
supplemented during 1960 by a series of more
detailed studies on 23 cities and areas, [REDACTED]

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An annotated map accompanied each report.

B. Scientific Intelligence Support

The surge of scientific intelligence support
work during the 1958-1960 period was in response
to requests for studies in the fields of guided
missiles, nuclear energy, and chemical and
biological warfare. The guided missile work
requested by OSI was similar in format to that
previously done for ORR/ERA. An early attempt by

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[redacted] to identify (b)(3) CIAAct
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possible IRBM launch sites in the western USSR 68/
foreshadowed the jointly requested CIA/RR GR 59-1,
a similar effort for ICBM sites. 69/ Other OSI-
requested studies were prepared as aids in the
collection of information on missile-related
targets. The CIA member of the Guided Missile
Intelligence Committee (GMIC), pointing out in a
memorandum to the AD/ORR that "firm information is
almost totally lacking," asked for research on

transportation -- road, rail, air, boat
-- which might be used by a potential
source to gain the best vantage point
for a given target. Also, data on
street elevations, known obstruction,
buildings (public or private), parks
or monuments which might overlook a
target, distance from target, con-
cealment possibilities, etc. 70/

The resulting study, [redacted]

(b)(1)

[redacted] was followed by three

detailed studies covering [redacted]

(b)(1)

[redacted]

A comprehensive self-initiated report by

[redacted] The Soviet Arctic, 73/ regional
in orientation, was well received by scientific

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intelligence officers. In a memorandum a year and a half after publication of the report, the chief of OSI's Intelligence Production Staff, requesting an updating, wrote:

This Office has found subject report extremely useful as a basic reference source. It has been particularly useful to analysts in our Geophysics Branch who have been following Soviet scientific research in the Arctic and to personnel in the Guided Missile Division who, in cooperation with ERA/RR, have been interested in the possibility of both test and operational missile launching facilities in the Soviet Arctic. 74/

Two studies completed for OSI's Nuclear Energy Division (OSI/NED) during the 1958-1960 period proved to be forerunners of many similar reports done in later years.

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The techniques developed in

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these studies by [redacted]

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[redacted] have subsequently
been employed many times by Division personnel.

A request in FY 1958 from OSI for geographic
data on the vicinity of a [redacted]

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[redacted] required research on hydrology, soils,
and geology -- all subjects of continuing Division
interest. 77/ Another request the following year,
from OSI's Electronics Division for use "in
preparing estimates of [redacted]

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[redacted] resulted in studies of the
distribution of the urban and rural population
of the Soviet Union and five East European
satellites, 79/ a topic which has continued to be
of major concern to the Division's requesters -- in
other components of DDS&T and DDI as well as in OSI.

Significant Division effort during the FY
1958-1960 period was devoted to support of the
Photo Intelligence Division (GP), at that time one
of four divisions in the Geographic Research Area
(GRA). However, soon after the evolution of GP
into the Photographic Intelligence Center (PIC) in

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August 1958, with the resultant loosening of organizational ties between the Geography Division and PIC and increase of professional capabilities within PIC, formal support activity by the Division ceased. Most of the studies produced for GP-PIC were in support of the planning of U-2 and offshore photographic missions; they were conventional geographic treatments, covering both physical and cultural aspects, of areas believed to have military significance. 80/

C. Economic Intelligence Support

Work for the Economic Research Area (ERA) of ORR continued at the rate of seven or eight reports a year during the late 1950's before dropping to an annual output of two or three in the early 1960's. Several important studies were produced, the more significant ones dealing with agriculture and transportation.

Following critical examination of papers by agricultural economist [] on analogous agricultural areas in the Soviet Union and North America 81/ the Division turned out two agroclimatic

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studies of its own. The first of these 82/ set out "to determine on the basis of agroclimatic factors the potential distribution and the feasibility of corn production throughout the Soviet Union," 83/ a topic which had assumed high importance as a result of Khrushchev's plan to surpass the United States in per capita production of meat and dairy products by 1961 through the increased use of corn as fodder. Continued shortages during the past 12 years have borne out the conclusions of this report that Khrushchev's plan was highly unrealistic.

The Soviet corn study was followed in 1959 by a similar report on Chinese rice cultivation. 84/ This pilot project, intended by its author (b)(3) CIAAct (b)(6) to test both the adequacy of available data and the methodology, led to the conclusion that

unless further details on the growth factors of Chinese rices are developed through more intensive study of available sources or unless additional information can be obtained from Chinese Communist sources, the value of further refinement of critical climatic factors through analagous-area study is doubtful. 85/

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The requester, ERA's Agriculture Branch, determined that the report should not be carried beyond the preliminary draft stage. Thus ended Division efforts in sophisticated agroclimatic geography.

One of the Division's most successful support projects has been the map of USSR railroads prepared by [] first published in 1958 and revised four times since then. 86/ This map summarized intelligence not only on the existing rail net but also on lines under construction and projected, indicating guage, number of tracks, and status of electrification. It filled a critical need in providing the intelligence community with a better base for the guidance and evaluation of collection efforts during the days of the "missile gap" when there was a widespread conviction that the deployment of Soviet ICBM's would be tied to the rail network. The second edition was accompanied by a comprehensive study of Soviet railroads during the 1950's which analyzed their growth in conjunction with the expansion of both industry and agriculture. 87/

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Other economic support activity during the FY 1958-1960 period included conventional geographic surveys by [] of the Transcaucasus and of Kazakhstan and Central Asia, two of the large economic regions of the USSR. 88/ These were used primarily by ERA in the preparation of studies of post and telecommunication facilities and services. (b)(3) CIAAct (b)(6)

Self-initiated studies during the late 1950's continued to have a preponderantly economic orientation. Two Latin American studies were devoted exclusively to economic topics. As an outgrowth of the Suez crisis of 1956 and the resultant heightened interest in Latin American oil, [] of the Western Hemisphere Branch prepared in mid-1957 a lengthy survey, country by country, of petroleum exploration, production, transportation, and marketing. 89/ The Geography and Cartography Divisions jointly produced in 1957 the first map which specifically showed railroad facilities in all Latin America. 90/ This three-sheet map was distributed at the Ninth Congress of the Pan American Railway Congress (b)(3) CIAAct (b)(6)

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Association and later published with a brief text. 91/

Other self-initiated reports represented more comprehensive geographic treatments of areas of current or potential intelligence significance. The economic content of these reports varied considerably with the nature of the area under study. A report on northern Afghanistan, considered to be a prime target for Soviet penetration, included only a short section on economic activity, concentrating primarily on physical geography and population. 92/ On the other hand, a study of the area transferred from Germany to Poland at the end of World War II was almost entirely economic. 93/

Following the favorable reception accorded the study of the Soviet Arctic 94/ this region remained a focus of Division research during the late 1950's. Reports on [REDACTED] (b)(1)

[REDACTED] were published in 1958 and a revised version of the Soviet Arctic study was issued the following year. 97/ Review of the draft of the [REDACTED] report elicited an exchange of (b)(1)

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memorandums among the Chiefs of ORR, GRA, and GD which sheds some light on their differing views of the Division's role in producing self-initiated studies which include, inter alia, discussions of economic and scientific activities. Mr. [redacted] (b)(3) CIAAct (b)(6)
[redacted] Chief/GRA, wrote in early September 1957:

The report does not give a sufficient analysis of [redacted] possible strategic use The addition and replacement I am suggesting is as complete an analysis as possible of the role [redacted] can play in the over-all Soviet strategy 98/ (b)(1) (b)(1)

Later in the month Mr. [redacted] with the support of Dr. [redacted] AD/ORR, revised his recommendation, suggesting that the [redacted] study be replaced by "one report which would analyze the significance of [all] the Arctic island groups to the U.S.S.R." 99/ (b)(3) CIAAct (b)(6) (b)(3) CIAAct (b)(6) (b)(1)

In response, [redacted] Chief/D/GG, pointed out that the Division was not the only Agency component "vitally concerned with the Soviet Arctic," that an NIE considering the strategic significance of [redacted] had already been produced, and that the report in question (b)(3) CIAAct (b)(6) (b)(1)

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was designed to fill a basic need for information on a little known but strategic part of the Soviet Arctic All self-initiated G-reports are based on needs for information as recognized by D/GG analysts, who are in close touch with our consumers. Past experience indicated that the areas covered have been well selected

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. . . The current report is the only comprehensive account of the islands in the English language and, so far as is known, is superior to any single available geographic description in Russian. 100/

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IV. The First Half of the 1960's

Support to economic intelligence analysts continued during the first half of the 1960's, but as the USSR progressed from testing to deployment of ICBM's and continued the testing of nuclear weapons, the Geography Division devoted more and more effort to the support of missile and nuclear weapons analysts in ORR and OSI. Research on geographic aspects of chemical and biological warfare (CBW) intelligence and on Soviet defensive weapons systems also assumed new importance in the Division's schedule.

A. Scientific and Military Intelligence Support

Writing in early 1962, [REDACTED]

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Chief/GRA, outlined the trend in geographic support of scientific and military intelligence:

Similarly, the advent of new crises or the escalation of long-standing critical situations, in both Bloc and non-Bloc areas, has called for a shift of emphasis in the research of the Geographic Research Area. This shift, stimulated particularly by technological and military developments in the USSR, and by turmoil in areas which previously

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had been quiescent, has produced new demands for operational and estimative backstopping and the preparation of precise, detailed studies on a wide variety of topics. 101/

Some months earlier, an official statement on ORR objectives for FY 1962 had predicted that "Research on the USSR will approximately double, reflecting . . . a continued emphasis on guided missiles and nuclear energy intelligence support." 102/ In addition to the increase in formal research there was a sharp jump during this period in informal contacts between geographers on the one hand and scientific and military intelligence analysts on the other, particularly the missiles researchers in ORR. One analyst long active in the missile field believes, in fact, that the everyday exchange of information and views ranked in value with the Geography Division's written contributions. 103/

1. Nuclear Weapons and Missiles

Support work for nuclear weapons researchers varied from the comprehensive physical and cultural description of the Mangyshlak Peninsula 104/ and the study of the physical geography of Communist China's nuclear test site 105/ to briefer

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descriptions of climate 106/ and water supply 107/ at specific locations. Because of security compartmentation constraints, these reports were generally produced without any reference to the specific target under study, referring only to the general area of the known or suspected installation. Division work on missile test ranges was concentrated on aiding collection efforts by supplying coordinates and elevations of targets specified by the requester and on determining the masking effect of terrain on radar range. The latter studies, typified by one examining the terrain between Karachi in the south and the Kapustin Yar and Sary Shagan missile test ranges in the north, 108/ were designed to determine the

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Geography Division personnel took an active part in intelligence community efforts to determine the pace of Soviet long-range missile deployment. A summary of Division activity in late 1960 and early 1961 reported that

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Extensive and varied support was provided on problems of guided-missile intelligence Geographic research was also concerned with the evaluation of incoming intelligence on specific Soviet missile sites We are increasing our attempts to develop new indicators of missile site deployment through the identification of Soviet geographic field activities. Similar work is being conducted in support of guided-missiles intelligence in the rest of the Bloc. 109/

In an early attempt to determine the likelihood of missile observation in the Soviet Union the Division published in early 1961 a computation of the area which had been seen by Western observers over a 26-month period. 110/ Taking into account not only the method of observation but also various obstacles and limitations, the report estimated percentage of area observed for the entire USSR and for each of eight areas considered most favorable for missile deployment. Shortly thereafter the first of a long series of computations of special intelligence data on the USSR railroad network was published. Updated two to four times a year throughout the early 1960's, these studies offer a technique for periodically determining the confidence levels of the Intelligence

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Community's assessments of Soviet ICBM strength. They were critical during the "missile gap," when the Air Force was postulating much higher force levels than actually existed.

During 1962

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[redacted] prepared reports on the areas surrounding four Soviet missile launch complexes. 111/ Intended both as an aid in measuring the economic burden of the complexes and as support for collection efforts, each of these studies comprised, in addition to a general description of the area, a lengthy compilation of military, economic, and cultural features within a given radius of the complex.

By 1963 interest was high in the American Intelligence Community concerning the various Soviet systems being constructed as defenses against missile attack. Requests for geographic intelligence support on these installations were received from both the Guided Missiles Division in ORR and from OSI. Reports covering both radar installations and the defensive missile launch complexes themselves were prepared by the USSR

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Branch at SECRET and higher levels. One report dealt with winter weather conditions in Leningrad, with specific attention to the 1961-1964 period. 112/ The remaining studies concentrated on analyses of terrain as an aid both in evaluating the capability of known complexes and in predicting the location of future defensive sites. 113/

2. Chemical and Biological Warfare

Eight years after the publication of the Division's initial study of [REDACTED] OSI, citing a "sustained and continuing interest" in the [REDACTED] as a BW center, asked for additional information on a variety of topics -- construction, scientific activities, transportation and communications, personalities, administration, and geology. 115/ Much of this information was supplied in a general supplement to the 1953 study, 116/ a report on transportation in the [REDACTED] area, 117/ and another on military activities on [REDACTED]. Also at the request of OSI, the Division produced a report on the physical

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and cultural features and human activity in an area

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[redacted] In addition, some work was completed on climatic conditions in the vicinity of Soviet BW/CW associated sites. 119/

3. Arms Control

Following two international conferences during the last half of 1958, one on the detection of nuclear test violations and the other on the cessation of nuclear testing, geographic intelligence research entered a new field -- supporting the U.S. Government search for effective arms-control measures. This new activity was in immediate response to a memorandum from OSI which outlined the problem in the following words:

As part of the Agency's support to current negotiations for a controlled nuclear test moratorium, we are required to advise the Inter-Agency Working Group on Disarmament, as well as interested Advisory Panels of the President's Science Advisory Committee, on the support U.S. intelligence can provide in the detection and identification of concealed underground nuclear tests. 120/

The memorandum requested a regional evaluation of the Soviet Union in terms of suitability for

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clandestine underground nuclear testing. The

resulting geographic report, written by

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identified those favorable areas in the

Soviet Union where

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A year

after its publication, this report was referred to as "a pioneer research effort" which "continues to be a basic intelligence reference document in the field." 122/ Further work on arms control included a pilot project with ORR/MRA in late 1964 and 1965 on the city of Kuybyshev, USSR, which determined that effective US monitoring of Soviet long-range missile production would be extremely difficult and at best highly unreliable without on-site inspection. 123/ This conclusion has reportedly had a lasting influence on the Arms Control and Disarmament Agency's decision to press for effective on-site inspection provisions. 124/

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4. Other

Two population reports prepared in 1960 and 1963 introduced a new area of research. One was done to assist OSI in its review of the reception of U.S. international broadcasting, 125/ and the other provided an estimate for the Military Economics Division of ORR of the urban and rural population within 65 miles of Moscow and 50 miles of Leningrad; the approximate areas defended by SAM's. 126/

The first Division work for the newly created Office of Elint (OEL) were studies in late 1963 of the relationship of SAM sites near Leningrad and Odessa to the water approaches to these ports. 127/ A number of further requests from OEL followed during 1964, the most significant of which were for line-of-sight studies to determine the best locations outside the Soviet Union for Elint monitoring stations. 128/

During the early 1960's Division scientific and military support work for other requesters, both within and outside CIA, ebbed to the lowest

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point of its history. Nevertheless, a variety of interesting and significant studies were produced.

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[redacted] A study requested by the Medical Staff showed the navigable segments of selected rivers in both Africa and South America and included information on both seasonal changes and draft. 130/ [redacted]

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B. Economic Intelligence Support

Support to the economic components of ORR increased throughout the early 1960's from only two projects a year to more than 20 in 1965, although the bulk of the work consisted of informal consultation and review of ERA papers. Transportation continued to be the topic of major interest, with emphasis on China, particularly after fighting on the China-India border broke out

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in October and November 1962. 132/ Continuing unrest in the former Belgian Congo and elsewhere in southern Africa led to a formal report prepared by the Near East-Africa Branch as a contribution to an ERA project. 133/ This study placed heavy emphasis on the interdiction of rail lines but also included considerable discussion of traffic, guage, and electrification. Other forms of transport were discussed but to a considerably lesser degree. Two reports on Viet Nam by the Far East-Pacific Branch also appeared during this period: a study of a river in North Viet Nam 134/ and a review of an ERA study of Communist infiltration. 135/ Other Division support to economic analysis ran the gamut from an oral presentation on Chinese agriculture 136/ through a list of locations of telecommunications facilities in Cuba 137/ and a paper on the limitations of high-level photography in Southeast Asia 138/ to some notes on the economic development possibilities in Southeast Asia. 139/ The latter, a contribution to an ERA study, suggested a number of ways to improve agriculture, fishing, and industry. By

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helping create "a sense of national identity for all elements of the population" such improvements could be expected eventually to lead to lasting political stability. 140/

Self-initiated economic support studies produced in the early 1960's averaged only about one per year and were concentrated almost entirely on Eastern Europe. A comprehensive geographic-historical treatment of the Olsztyn region (Polish-administered East Prussia) 141/ was soon followed by a study of Yugoslav roads, whose inadequacy was a major obstacle to economic development. 142/ One of the most ambitious projects of this period resulted in a report 143/ detailing accomplishments of the program begun in 1949 by the Czechoslovak government to industrialize Slovakia and examining

its effect upon the transportation and power networks and the development of natural resources, . . . the orientation of the new industries with respect to location of raw materials and markets outside or inside Czechoslovakia, and the relation of this orientation to the future over-all orientation of Slovakia. 144/

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~~SECRET~~V. The Second Half of the 1960's

The major trend of the second half of the 1960's was the increasing emphasis on the support of intelligence collection by technical means. Several of the technical intelligence components established in the Agency during the early 1960's became regular customers of the Division after 1965, and more than 50 projects completed during the latter half of the decade were in support of the Office of Research and Development (ORD), the Foreign Missile and Space Analysis Center (FMSAC), the Office of Elint (OEL), and the Office of Special Projects (OSP).

Support to the military analysts in OSR also increased while work for OSI continued at a steady pace. Self-initiated "regional" studies with some economic orientation regained an important share of Division production, but direct support to economic intelligence officers was limited to short reports and routine coordination.

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A. Support to Collectors

As ORD developed new types of sensors, it asked the Division to provide support to ensure their efficient utilization. Several of the resulting geographic studies dealt with the environmental conditions

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Although concentrating primarily on oceanographic conditions, this study also touched on the population, economy, and security in the area. The requesters were reportedly pleased with the result:

They felt that the study hit the main point -- feasibility of mounting the operation. They were distinctly surprised by the amount of data uncovered and were particularly pleased by the new and pertinent subjects . . . hours of daylight, seaweed, and temperature of the water. 145/

A direct outgrowth of this report was a second, produced almost concurrently, in which the authors,

provided environmental intelligence on land as

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well as water areas. The original request had outlined the need for geographic support:

ORD is currently engaged in a program leading to the development of a system to accurately determine the relative

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It is requested that GD/OBI provide the basic geographic intelligence required to support this program. 146/

Other studies chose and evaluated suitable areas . These ranged ^{(b)(1)}_{(b)(3) NatSecAct} a critique of a Chinese soils publication 147/ to ground-photo studies of the terrain and soils at specified locations. 148/ Still others were in support of a project to design equipment for

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to indicate population distribution, provide relevant climatic data, and locate significant cultural features . . . This information will be incorporated into a machine program designed to evaluate the probability

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of detection of such equipment and
may also affect its design. 149/

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A problem of common interest to both ORD and
OEL, the determination of positions in accessible
areas which command radar-type line-of-sight to
targets in denied areas, led to several requests
for Division support. One study completed for ORD

by

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for example, concluded that a

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provided no favorable positions for the
observation of either the MRBM impact area in the

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ORD's Physics and Chemistry Division requested help in ascertaining the normal water chemistry and flow of several rivers. The resulting studies, 153/ based entirely on open sources, were used by ORD "in the evaluation of information on isotope concentrations." 154/

A series of detailed maps of five Soviet and Chinese missile test facilities was the Division's initial contribution to the newly formed Foreign Missile and Space Analysis Center (FMSAC). Most of the other support work done for FMSAC during the last half of the 1960's dealt with the determination of the exact geographic coordinates and elevations of specified missile testing facilities. Other requests were received for information on the climate at test centers. 155/ One less conventional project, self-initiated within the Division but used by FMSAC, illustrates the Division's capability to complement data collected by radio monitoring with other types of open-source information. (b)(1)
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Support to OEL, begun in 1963 and continued through the late 1960's, consisted of recommendations on the placement of collection devices. These recommendations not only resulted in better site selection but also in considerable time saving in the field. They took into consideration not only the technical requirements for good reception of electronic signals but also questions of accessibility and security. 157/

Division support to OSP comprised for the most part limited studies of population, mapping, and transport routes, the results of which were presented as oral briefings, short memorandums, or maps. One project of particular note was in response to a request to assess a proposal by the [redacted] to evaluate the usefulness of (b)(3) NatSecAct color photography.

Another important collector-customer during the late 1960's was the Information Requirements

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Staff (IRS), formerly known as the Collection Guidance Staff (CGS). Work for IRS's Reconnaissance Group in support of planning by the USIB Committee on Imagery Requirements and Exploitation (COMIREX) included several compilations of elevations of COMIREX targets, which were of critical importance in programming the COMIREX intelligence collection system. 158/ Other support to IRS included detailed collection guidance materials on five barracks areas for the debriefing of a Soviet army defector 159/ and a comprehensive report by [redacted] (b)(3) CIAAct (b)(6) [redacted] on possible access routes for observation of 11 significant unidentified installations in the USSR. 160/ The latter was especially important because

These targets are large, heavily guarded, obviously important installations, whose functions are still unknown to us in spite of intensive study and analysis. The study . . . became an immediate "best seller" in the intelligence community. It proved to be a major reference tool in the subsequent drive, ordered by the DCI, to determine the nature of these unidentified installations. 161/

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Three particularly interesting studies dealing with the collection of information were completed by the USSR Branch for the Defense Department's Advanced Research Projects Agency (ARPA). 162/ According to the proposal for the second and third of these studies, they

will be used to program exercises that are designed both to establish the feasibility of various aspects of on-site inspection and to clarify the information requirements of an on-site inspection team operating in the field. 163/

These reports were designed to acquaint US inspectors with the ethnic composition, social structure, customs, and economy as well as with the physical geography of areas believed likely to be used for clandestine testing, production, or other activities in violation of a future arms control agreement. Hopefully, they will then be better equipped to recognize anomalies and therefore to detect violations. ARPA's Director for Nuclear Test Detection pointed out that the three studies

will help delineate many of the problems that an inspection team may have to face. Understanding of these problems and how they may be solved will also help to determine the U.S. position on, and specific

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requirements for, a total test ban treaty. 164/

B. Support to the Office of Strategic Research and Other Military Analysts

The establishment of the Office of Strategic Research (OSR) in July 1967 coincided with a significant increase in Division support to the military analysts. The average number of projects grew from fewer than seven per year during the first seven years of the 1960's to more than 18 per year during the period FY 1968-1970. They ranged in complexity from a simple determination of a river navigation season 165/ through coordination of several OSR papers and four comprehensive intelligence summary maps 166/ to a detailed evaluation of the geographic factors pertinent to the evacuation of five large Soviet cities. 167/ The methodology for this last study, highly commended by the requester, was developed

by [redacted] of the
USSR Branch. [redacted]

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The largest category of OSR requests during the last half of the 1960's was for population studies. Some of these involved no more than the compilation of lists giving population of administrative divisions and of urban places. 168/ Others, in an effort to assess potential wartime casualties, required calculating the population within given radii of selected cities. 169/ A major contribution was a method for estimating the population of irregular areas in the Soviet Union, devised in 1968 by 170/

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Periodic recomputations of the missile-free segments of the Soviet rail system were begun in 1961 and continued throughout the late 1960's,

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although the frequency was reduced in 1966 to one per year from a high of three or four. A similar project on China was started in 1967 and had continued through 26 editions by early 1970. Both projects were based on data plotted by NPIC and were in support of OSR monitoring of missile deployment.

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Other significant studies prepared for OSR included one which identified areas in China suitable for MRBM deployment and another which analyzed the geography of several similar

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unidentified Chinese installations.

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Support work for the Department of Defense, most importantly for the Aeronautical Chart and Information Center (ACIC) and the Army's Assistant Chief of Staff, Intelligence (ACSI), resumed during the late 1960's but only on an intermittent basis. An ACSI request resulted in two accessibility studies of nuclear-associated areas in the USSR. 173/ Division analysis of 30 "unusual landscape features in the USSR which ACIC believed to be of possible geodetic significance" 174/ led to

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their identification by [] as water (b)(3) CIAAct
catchment basins, 175/ confirmed some months later (b)(6)
on receipt of a translation of an article in a
Russian-language periodical. 176/

C. Support to the Office of Scientific Intelligence

Support to one of the Division's oldest customers, OSI, continuous since 1952 but varying greatly in quantity from year to year, settled down to a steady six or eight projects a year during the last half of the 1960's. It was related for the most part to OSI's work on nuclear energy, defensive missiles, and CBW.

Projects for OSI's Nuclear Energy Division during that period consisted of short topographic and geologic descriptions of the sites of Soviet nuclear explosions. 177/ Requests from the Defensive Systems Division (DSD), on the other hand, led to a major series of studies of radar intercept distances as part of an attempt to determine the precise role of several suspected Soviet ABM installations. DSD had earlier generated a request for a map of the Sary Shagan Anti-missile Test

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Center, which, with subsequent revisions, has proved to be of lasting value to analysts not only in OSI but also in OSR.

D. Economic Intelligence Support

The almost exclusive emphasis of the Geography Division on support studies -- reports in response to specific requests -- changed somewhat during the latter half of the 1960's with the publication of several self-initiated regional studies, most of them containing a significant amount of economic information. Some of these were prepared in direct response to a specific event or series of events; others reflected the increased or increasing importance to the United States of various parts of the world. The British decision to pull out of the Middle East, for example, attracted considerable interest to the Persian Gulf. The Division's report on the Gulf, in addition to providing basic information on the transportation and oil economy of the region, included a detailed map of petroleum concessions, oilfields, and pipelines. 178/

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Other Division work, on Laos and Cambodia, was a direct reflection of increasing American involvement in Southeast Asia. 179/ Several self-initiated studies focused on small areas prominent in the news 180/ and others on a single location or facility. 181/

Support to the Geography Division's former parent organization, the Office of Economic Research (OER -- formerly ORR) continued throughout the late 1960's at a more modest pace than in earlier years, although a marked increase in the number of requests from it was noted in FY 1970. Completed projects, other than routine coordination of OER reports, were largely confined to short studies in the fields of transportation and agriculture. 182/

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VI. Conclusion

A. The Past

Reflecting changes in emphasis, techniques, and organization throughout the intelligence community, scientific, military, and economic support work in the Geography Division has itself undergone major shifts in emphasis over its 23-year history as a part of CIA. Early support to economic intelligence officers was gradually superseded in importance by work for scientific and military analysts and, most recently, for technical collection specialists.

In the early years Division analysts, breaking out of the rigid mold of "map intelligence," devoted increasing effort to support of their economist colleagues. This support has continued until the present despite the 1965 organizational break with ORR, but in recent years it has largely been confined to routine coordination and answering spot requests. Self-initiated studies, however, primarily

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regional in nature and including some consideration of the economic aspects of geography, assumed greater significance during the last half of the 1960's.

The Geography Division began its support of military analysts in the late 1950's after the realization of the missile threat posed first by the USSR and later by Communist China. Division geographers were outstanding in their ability to provide answers to problems literally world-wide in scope.

The partnership of the Geography Division with scientific intelligence analysts extends back to OSI attempts in the early 1950's to make sense out of a few scattered clues on Soviet atomic and nuclear research and development. As scientific intelligence assumed a larger part of the total picture, the Division's role in support of both the scientific analysts in OSI and the technical collection specialists in the several new offices established during the 1960's grew proportionately.

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B. The Future

Throughout its history the usefulness of Geography Division efforts has been restricted -- and promises to continue to be so -- by a general lack of understanding of what a geographer is and what he can do. A narrow view of the geographer's capabilities has persisted in part because of the sometimes restricted view of geography taken by Division geographers themselves. A suggested project has often been considered appropriate only if it was outside the purview of any other intelligence component. This has led to much Division work being initiated only in answer to specific requests and produced in a limited number of copies. Those relatively few reports which have been widely distributed have been favorably received by a variety of readers.

As information on foreign areas multiplies in quantity and complexity, the trend within the intelligence community toward greater specialization will certainly continue both in the collection and in the analysis of this information.

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The capability of the Geography Division to integrate these proliferating fragments into a comprehensible whole will become even more essential.

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